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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,545	06/19/2006	Stephen Thomson	0446-0180PUS1	1930

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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER	
MCDONOUGH, JAMES E	

ART UNIT	PAPER NUMBER
1793	

NOTIFICATION DATE	DELIVERY MODE
10/16/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/550,545	THOMSON, STEPHEN	
	Examiner	Art Unit	
	JAMES E. MCDONOUGH	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 August 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-9 and 11-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4, 6-9 and 11-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-4, 6, 7, 9, and 11-14 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over GB 1 370 202, hereafter '202.

Regarding claims 1, 6, 9, 11, and 13

'202 teaches a method of transporting explosive slurries down boreholes wherein the end on the conduit tube is fitted with a turbine connected to a stirrer that is turned by the flow of slurry (page 1, lines 28-50), and as the flow of slurry is what powers the turbine the potential energy of the slurry will be dissipated and turbulence reduced at the outlet.

'202 does not explicitly teach that there is no change in the viscosity of the solution however, the method, apparatus, and explosive agent of the reference read directly on that of the instant invention and if the instant invention does not change the viscosity of the emulsion, then one of ordinary skill in the art would not expect that the viscosity of the emulsion of the reference will change absent evidence to the contrary. Further the design of the apparatus of the reference would not be expected to change the viscosity of the emulsion as there is no chopping motion involved. Further still the skilled artisan would appreciate that the viscosity of the emulsion will greatly effect the performance characteristics of an emulsion explosive, and will try to minimize to eliminate any change in viscosity.

Emulsion explosives and slurry explosives are synonymous.

Regarding claims 2-4

'202 teaches the use of a conduit pipe with an internal diameter of 2-3 cm and a length of 100m or more (page 1, lines 11-21).

Regarding claim 7

The arguments relating to claims 1, 6, 9, 11, and 13 above, are fully incorporated by reference here as the droplet size controls the viscosity of the emulsion, and the skilled artisan would readily appreciate this and take this into account, while delivering an emulsion explosive.

Regarding claim 12

'202 teaches that the potential energy of the flow of the slurry is used to turn the turbine, this is a conversion of the potential energy of the liquid into the mechanical energy of the turbine.

Regarding claim 14

'202 teaches that emulsion/slurry explosives are pumped through a conduit into a bore hole. Given it broadest reasonable interpretation the container that holds the explosive before entering the conduit is a "surface storage facility" and the borehole is an "underground storage facility", thereby anticipating the claims, on the other hand it would be obvious to use the apparatus, which is an improved apparatus for conveying explosive slurries, to move the explosive from wherever it is stored to wherever it is desired, absent any evidence to the contrary or unexpected results.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over GB 1 370 202, hereafter '202, as applied to claims 1-5 above.

Regarding claim 8

Although, '202 is silent as to the viscosity of the emulsion explosive, the viscosity of the emulsion explosive is considered obvious, as it would have been determined

through routine experimentation in the art, in an effort to optimize the performance characteristics of the emulsion explosive, by taking into account the desired sensitivity, impulse energy, ease of delivery/pumping, etc. for a given or desired use, absent any evidence of unexpected results or criticality.

Response to Arguments

Applicants argue against the 112 rejection over claim 12.

Applicants argue that the cancellation of claim 10 overcomes the 112 rejection. This is found persuasive and the 112 rejection has been withdrawn.

Applicants argue against the 102(b) rejection of the claims.

It is noted that the 102(b) rejection, has been replaced by the 102/103 rejection due to the amendments to claim 1.

Applicants argue that in the instant invention the explosive that is fed into the conduit is the same or essentially the same in terms of specified characteristics as the emulsion that exits the outlet, whereas the reference the slurry rotates a turbine and stirrer causing the slurry and the cross-linking agent to be mixed together to form a cross-linked explosive slurry. This is not persuasive because we can see by looking at figure 3, that the turbine is part of the conduit, however, the stirrer is attached to the end of the conduit, and therefore the slurry entering the conduit would be essentially the same as the slurry exiting the conduit into the stirrer to be mixed with the cross-linking

agent, and the comprising language of the claims does not disallow for the use of additional apparatus attached to the end of the conduit for modifying the composition.

Applicants argue that since the '202 reference is concerned with shearing of slurry together with a cross-linking agent to ensure thorough mixing in order to produce a cross-linked slurry, it is doubted that one skilled in the art would consider the '202 reference as a starting point for a solution. This is not persuasive because the method of the reference reads on that the instant invention as there would be expected to be no change as the composition is transported down the conduit. The fact that the composition is modified after leaving the conduit is not excluded by the claims.

Applicants argue that with respect to claim 6, '202 does actually explicitly teach that there is a change in viscosity of the slurry explosive since the slurry explosive is mixed with a cross-linking agent, and this causes an increase in the viscosity due to cross-linking/gelling. This is not persuasive because while the addition of cross-linking agent will affect the viscosity, this is technically done after leaving the conduit (see figure 3) while the composition is in the stirrer, so there is exhibited no change through transportation down the conduit. Further the reference clearly speaks of mixing the cross-linking agent after the composition leaves the conduit so as not to raise the pressure required to pump the composition through the conduit, and further that the "rotatable stirrer mounted for rotation with the turbine and located within the said tubular member at the end thereof remote from the pipeline (conduit) (first page).

Applicants remaining arguments have been fully considered, but are not persuasive for the same reasons given above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES E. MCDONOUGH whose telephone number is (571)272-6398. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571)272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J.A. LORENGO/
Supervisory Patent Examiner, Art Unit 1793

JEM 10/7/2009 JEM